National Center for Health Statistics

Reaching Out to Medical Examiners and Coroners to Improve Mortality Surveillance

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Board of Scientific Counselors

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Medical Death Investigation Systems

Source: CDC Public Health Law Program, Coroner/Medical Examiner Laws, by State
http://www.cdc.gov/phlp/publications/coroner/death.html
Types of deaths investigated:

- Sudden unexpected deaths
- Injury deaths
  - Homicide, Suicide, Unintentional, Undetermined
- Unattended deaths
- Variation & restrictions by jurisdiction
Drug overdose death rates by county, 1999-2014

Estimated Age-adjusted Death Rates for Drug Poisoning by County, United States: 1999

Year 1999

Estimated Age-adjusted Death Rate per 100,000:
- 0-2
- 2.1-4
- 4.1-6
- 6.1-8
- 8.1-10
- 10.1-12
- 12.1-14
- 14.1-16
- 16.1-18
- 18.1-20
- >20

Estimated Age-adjusted Death Rates for Drug Poisoning by County, United States: 2000

Year 2000

Estimated Age-adjusted Death Rate per 100,000:
- 0-2
- 2.1-4
- 4.1-6
- 6.1-8
- 8.1-10
- 10.1-12
- 12.1-14
- 14.1-16
- 16.1-18
- 18.1-20
- >20

Estimated Age-adjusted Death Rates for Drug Poisoning by County, United States: 2001

Estimated Age-adjusted Death Rates for Drug Poisoning by County, United States: 2006

Year
2006

Estimated Age-adjusted Death Rate per 100,000:
- 0-2
- 2.1-4
- 4.1-6
- 6.1-8
- 8.1-10
- 10.1-12
- 12.1-14
- 14.1-16
- 16.1-18
- 18.1-20
- >20

Estimated Age-adjusted Death Rates for Drug Poisoning by County, United States: 2008

Estimated Age-adjusted Death Rate per 100,000:
- 0-2
- 2.1-4
- 4.1-6
- 6.1-8
- 8.1-10
- 10.1-12
- 12.1-14
- 14.1-16
- 16.1-18
- 18.1-20
- >20

Estimated Age-adjusted Death Rates* for Drug Poisoning by County, United States: 2010

Year 2010

Estimated Age-adjusted Death Rate per 100,000:
- 0-2
- 2.1-4
- 4.1-6
- 6.1-8
- 8.1-10
- 10.1-12
- 12.1-14
- 14.1-16
- 16.1-18
- 18.1-20
- >20

National Association of Medical Examiners Position Paper: Recommendations for the Investigation, Diagnosis, and Certification of Deaths Related to Opioid Drugs

Gregory G. Davis MD MSPH and the National Association of Medical Examiners and American College of Medical Toxicology Expert Panel on Evaluating and Reporting Opioid Deaths

ABSTRACT: The American College of Medical Toxicology and the National Association of Medical Examiners convened an expert panel to generate evidence-based recommendations for the practice of death investigation and autopsy, toxicological analysis, interpretation of toxicology findings, and death certification to improve the precision of death certificate data available for public health surveillance. The panel finds the following.

1. A complete autopsy is necessary for optimal interpretation of toxicology results, which must also be considered in the context of the circumstances surrounding death, medical history, and scene findings.

2. A complete scene investigation extends to reconciliation of prescription information and pill counts.

3. Blood, urine, and vitreous humor, when available, should be retained in all cases. Blood from the femoral vein is preferable to blood from other sites.

4. A toxicological panel should be comprehensive and include opioid and benzodiazepine analyses, as well as other potent depressant, stimulant, and anti-depressant medications.

5. Interpretation of postmortem opioid concentrations requires correlation with medical history, scene investigation, and autopsy findings.

6. If death is attributed to any drug or combination of drugs (whether as cause or contributing factor), the certifier should list all the responsible substances by generic name in the autopsy report and on the death certificate.

7. The best classification for manner of death in deaths due to the misuse or abuse of opioids without any apparent intent of self-harm is “accident.” Reserve “undetermined” as the manner for the rare cases in which evidence exists to support more than one possible determination.

Davis GG et al, Academic Forensic Pathologist, 3(1), 77-83. 2013.
Percent of drug overdose deaths with specific drugs identified by state, 2014

Percent of drug overdose deaths with specific drugs identified by state, 2012-2014

Presentations and booths at professional meetings

National Association of Medical Examiners (NAME)

International Association of Coroners and Medical Examiners (IAC&ME)

American Academy of Forensic Sciences

State Medical Examiners and Coroners Organizations

Council of State and Territorial Epidemiologists

American Public Health Association
Communication: From MDI to CDC

- Mortality data for prevention purposes including cause and circumstances of death, and risk and protective factors
- Mortality data for evaluation of programs
- Potential emerging public health and safety threats
- New science and technology in death investigation that may impact public health
- Seminars, reports, publications of interest
Communication: From CDC to MDI

- Alerts on emerging public health threats
- Resources on death investigation (e.g., SUID)
- Guidance on filling out death certificates
- Services offered (e.g., detection of infectious diseases)
- Seminars, reports, publications of interest
- Continuing medical education opportunities
- Funding opportunities
Interagency Coordination

WH: ONDCP, OSTP
HHS: NIH, FDA, SAMSHA
DOJ: NIJ, DEA, BJS
DOL: BLS, OSHA
DOT: NHTSA, FAA
Interagency Coordination

STRENGTHENING THE MEDICOLEGAL-DEATH-INVESTIGATION SYSTEM: IMPROVING DATA SYSTEMS

Executive Office of the President
National Science and Technology Council

September 2016
Medicolegal Death Investigation Data

- Death Scene
- Autopsy
- Toxicology
- Pharmaceutical
- Medical Records

Medical Examiner/Coroner Case Management System

Death Certificate
US Standard Death Cert

Demographic information
Completed by the funeral director using information from the best qualified person: spouse, parent, child, another relative, or other person who has knowledge of the facts

Medical information
For natural causes, completed by attending physician, nurse practitioner, physician’s assistant
For sudden and unexplained deaths, completed by medical examiner, coroner, Justice of the Peace

Demographic information
CDC/NCHS outreach to medical examiners and coroners

Improving national mortality surveillance by:

- Promoting quality and consistency in death investigations and death certification
- Promoting collection, automation, and distribution of medicolegal death investigation data
- Facilitating information sharing among the medicolegal death investigation community
- Coordinating public health surveillance efforts
Questions?

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